33-131. Arizona coordinate system, 1983; zones; composition

A. The Arizona coordinate system, 1983, is the system of plane coordinates which has been established by the national geodetic survey for defining and stating the positions or locations of points on the surface of the earth in this state.

B. The Arizona coordinate system, 1983, contains three zones as follows:

1. The west zone, composed of La Paz, Mohave and Yuma counties.

2. The central zone, composed of Coconino, Maricopa, Pima, Pinal, Santa Cruz and Yavapai counties.

3. The east zone, composed of Apache, Cochise, Gila, Graham, Greenlee and Navajo counties.

C. In any land description in which the Arizona coordinate system, 1983, is utilized the system shall be designated "Arizona coordinate system, 1983, _____ zone", with the name of the appropriate zone inserted.

33-132. Coordinates of system; zone definitions

A. The plane coordinates of a point on the earth's surface, to be used in the position or location of such point in the appropriate zone of the system, shall consist of two distances, expressed in feet and decimals of a foot (foot value 0.3048 meter exact). One of these distances, to be known as the "X-coordinate", shall give the position in an east-and-west direction, and the other, to be known as the "Y-coordinate", shall give the position in a north-and-south direction. These coordinates shall depend on and conform to the coordinates on the Arizona coordinate system, 1983, of the horizontal control stations of the national geodetic survey in this state, as these coordinates have been determined by the survey.

B. For the purpose of more precisely defining the Arizona coordinate system, the following definitions of the national geodetic survey are adopted:

1. The Arizona coordinate system, 1983, west zone, is a transverse mercator projection of the North American datum, 1983, having a central meridian 113 o 45' 00" west of Greenwich, on which meridian the scale is set one part in fifteen thousand too small. The origin of the coordinates is at the intersection of the meridian 113 o 45' 00" west of Greenwich and the parallel of 31 o 00' 00" north latitude. This origin is given the coordinates of "X" equals seven hundred thousand feet and "Y" equals zero feet.

2. The Arizona coordinate system, 1983, central zone, is a transverse mercator projection of the North American datum, 1983, having a central meridian 111 o 55' 00" west of Greenwich, on which meridian the scale is set at one part in ten thousand too small. The origin of the coordinates is at the intersection of the meridian 111 o 55' 00" west of Greenwich and the parallel of 31 o 00' 00" north latitude. This origin is given the coordinates of "X" equals seven hundred thousand feet and "Y" equals zero feet.

3. The Arizona coordinate system, 1983, east zone, is a transverse mercator projection of the North American datum, 1983, having a central meridian 110 o 10' 00" west of Greenwich, on which meridian the scale is set at one part in ten thousand too small. The origin of coordinates is at the intersection of the meridian 110 o 10' 00" west of Greenwich and the parallel of 31 o 00' 00" north latitude. The origin is given the coordinates of "X" equals seven hundred thousand feet and "Y" equals zero feet.

33-133. Ground markings of system; accuracy specifications; horizontal control stations

A. The position of the Arizona coordinate system shall be marked on the ground by horizontal control stations which have been established in conformity with standards adopted by the federal geodetic control committee for first order, second order class I or second order class II surveys or equivalent standards adopted by successors, at the time the surveys were made and computed on the North American datum, 1983.

B. A horizontal control station normally consists of, if practicable, a group of bronze or brass discs imbedded in concrete posts nearly flush with the ground surface or cemented into holes drilled into rock outcrops or ledges in such a configuration that the station is referenced by a subsurface mark in a precise vertical register with the surface mark, two reference marks, similar to the surface mark accurately located by azimuth and horizontal distance in respect to the horizontal control station and not more than one hundred fifty feet distant and an azimuth mark which may be similar to the horizontal control station not less than one thousand feet distant, or optionally, an object not less than three thousand feet distant such as a church spire, water tank, radio or television transmitting antenna, by which azimuth mark subsequent surveys may be accurately oriented.

C. Horizontal control stations shall be established, if practicable, in proximity to road intersections, hill or mountain tops and similar locations as an aid in the field searches for the horizontal control stations.

33-134. Tract located in more than one zone; description

If a tract of land to be defined by a single description extends from one into another of the coordinate zones established by this article, the position of all points on its boundaries may be referred to as either of the two zones, the zone which is used being specifically named in the description.

33-135. Reliance of purchaser or mortgagee not required

Nothing contained in this article requires any purchaser or mortgagee to rely on any land description, any part of which depends exclusively on the Arizona coordinate system, 1983.

33-136. Public lands survey descriptions; conflicts; control

If coordinates based on the Arizona coordinate system, 1983, are used to describe a tract of land which in the same document is also described by reference to a subdivision, line or corner of the United States public land surveys, the description by coordinates shall be construed as supplemental to the basic description of the subdivision, line or corner contained in the official field notes and plat filed of record, and in the event of a conflict the description by reference to the subdivision, line or corner of the United States public land surveys prevails over the description by coordinates.

33-137. Recording, filing, publishing extensions and densifications of the ground marking system

A. Extensions and densifications of the ground marking system of the Arizona coordinate system, 1983, shall be executed in conformity with the standards and specifications of the federal geodetic control committee for first order, second order class I and second order class II surveys and computed on the North American datum, 1983.

B. The results of these surveys shall be published by a competent department of the federal government, such as the national geodetic survey, or a surveyor qualified to practice in this state, in which case the survey results shall bear a certification to the effect that the specifications of the federal geodetic control committee have been followed.

C. Extensions and densifications of the ground marking system by first order, second order class I or second order class II methods only shall be used. Such extensions and densifications shall be integrated with previously established horizontal control stations of equal or higher order to form a matrix or network no part of which shall have positional errors exceeding those specified for class II second order. The spacing intervals shall not exceed three miles.

D. The results of these surveys are public domain and shall be duly recorded in the office of the county recorder of the county where the horizontal control station is situated.

33-138. Recording prerequisite

Coordinates based on the Arizona coordinate system, 1983, shall not be presented to be recorded in any public land records unless the recording document also contains the descriptions of not less than two horizontal control stations of first order, second order class I or second order class II positional accuracy which shall not exceed six miles from the nearest point or line of the land survey.